Review Form 1.7

Journal Name:	**Journal of Engineering Research and Reports**
Manuscript Number:	**Ms_JERR_99530**
Title of the Manuscript:	**Analysis of Chushandian Gravity Dam**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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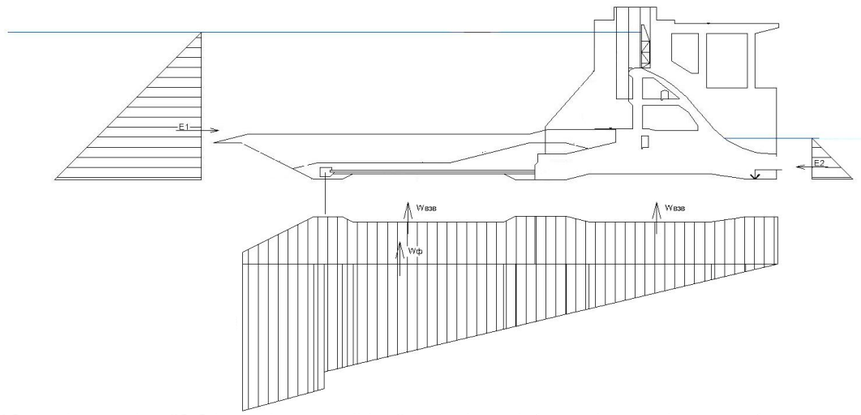
PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** Yes, this article is interesting for the scientific community to study. The analysis of frequencies and forms of natural oscillations is of the greatest value. However, a minor revision of the data on natural frequencies is required. **2. Is the title of the article suitable?** The title will more fully reflect the content of the article in the following form: ***«Modal Analysis of the Chushandi Gravity Dam»*** **3. Is the abstract of the article comprehensive?** The abstract sufficiently describes the article. **4. Are subsections and structure of the manuscript appropriate?** The subsections of the article are relevant and well reveal the essence of the work. However, the section "Fundamental Theory" does not carry much informational value because it describes well-known and verified information. This section can be shortened without compromising the integrity of the article. **5. Do you think the manuscript is scientifically correct?** Yes, the article is scientifically reliable, but data expansion is required to evaluate and analyze the results obtained. The list of issues is presented below and begins with point 7. **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** There are no additions and suggestions on the links. **7. The Figure are difficult to read, there are no visible stress zones on them. It is recommended to remove the rock base from the Figures, leaving only sections of the dam by enlarging the image similar to Figure 7.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	1. Yes, this article is interesting for the scientific community to study. The analysis of frequencies and forms of natural oscillations is of the greatest value. However, a minor revision of the data on natural frequencies is required. 2. The title will more fully reflect the content of the article in the following form: ***«Modal Analysis of the Chushandi Gravity Dam»*** 3. The abstract sufficiently describes the article. 4. The subsections of the article are relevant and well reveal the essence of the work. However, the section "Fundamental Theory" does not carry much informational value because it describes well-known and verified information. This section can be shortened without compromising the integrity of the article. 5. Yes, the article is scientifically reliable, but data expansion is required to evaluate and analyze the results obtained. The list of issues is presented below and begins with point 7. 6. There are no additions and suggestions on the links. 7. The Figure are difficult to read, there are no visible stress zones on them. It is recommended to remove the rock base from the Figures, leaving only sections of the dam by enlarging the image similar to Figure 7. 8. The section "3.2 Model parameters and model creation" presents the properties of materials, rocks and concrete, but there is no information about the parameters of compressive and tensile strength (Rb and Rbt). there is no data on the concrete strength class under consideration. Without these properties, the analysis of the obtained stress values is difficult. Section 3.4.1 concludes that minor stress values are 19 MPa in compression and 1.1 MPa in tension. It should be noted that these values exceed the values for concrete of class B30 according to Russian standards, whereas cheaper and less durable concretes are used for gravity dams to optimize costs (concretes B15-20) 9. For the first 10 forms of modal vibration analysis, it is recommended to display a table with frequencies and the contribution of these frequencies (forms) to the work of the structure. 10. The article discusses all the first 10 frequencies, while it is clear that some of them do not determine the operation of the structure, but are local in nature. I would like to see the frequencies and shapes, after which you can reduce the number of Figures by increasing their size and quality. Example:	

№№ frequency	frequency, Hz	Contribution coefficient		
		by axis X	by axis Y	by axis Z
1	1.504	0.3444	0.0175	1
2	1.505	1	0.0505	0.3444
3	2.148	0.0005	0.0006	0.0693
4	2.471	0.0851	1	0.0006
5	2.726	0.0003	0.0018	0.2997
6	3.711	0.2379	0.1198	0.0001
7	5.607	0	0.0003	0.0021

8	6.031	0.0076	0.0077	0.0003
9	6.498	0.0005	0.0003	0.0068
10	6.718	0.0046	0.0025	0.0007

11. The text of the article says that the case is being considered in which the water level of the lower pool is zero (there is no water), while the water from the upstream side gradually rises to the design mark. hence the questions: 1. What filtration and weighing pressure was set on the sole of the concrete dam? 2. If the reservoir was filled, then there should have been water leaks and there is water in the lower pool. If a construction case is being considered, then there should be no water in the lower pool and upstream. it is recommended to add schematization of the specified loads as shown in the reviewer's drawing.
    Example:



12. in the section "3.3 boundary condition" there is no information on the type of contacts used in the calculation. Was the bonded contact used? or with slippage? if with slippage, then the angle of internal friction and coupling should be specified.
13. The article is of scientific value and can be published after revision.

Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	Yes, the quality of the translation allows the article to be used in scientific discussions.	
Optional/General comments		

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

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